

**From:** Montross, Ben  
**Sent:** Monday, April 04, 2016 3:52 PM  
**To:** Sherman, Diane  
**Subject:** FW: PFOA information  
**Attachments:** Regional Water Authority Price Quote.pdf; PFOA SDS for Tris Hydrochloride.pdf; PFOA Sample Collection Instructions.pdf; PFOA COC for Sub.pdf  
  
**Categories:** PFOA

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Ben Montross  
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Agency of Natural Resources  
Department of Environmental Conservation Drinking Water & Groundwater Protection Division  
1 National Life Drive – Main 2  
Montpelier, VT 05620-3521

Note: Written communications to and from state officials regarding state business are considered public records and will be available to the public for review.

-----Original Message-----

From: mdecoster@endynelabs.com [mailto:mdecoster@endynelabs.com]  
Sent: Monday, March 14, 2016 2:54 PM  
To: Montross, Ben <Ben.Montross@vermont.gov>  
Subject: PFOA information

Ben

It was a pleasure seeing you again. I have attached some PFOA information that you asked for in regards to our sub-contract lab. If there is additional information that I can assist you with, please let me know.

Maggie DeCoster  
Customer Relations Manager/EHS Coordinator ENDYNE Inc  
56 Etna Road  
Lebanon, NH 03766  
mdecoster@endynelabs.com  
603-678-4891



Quote No:RWA1070

Date: [Enter a date]

Expiration Date: NA

Regional Water Authority  
90 Sargent Dr  
New Haven, CT 06511  
Phone (203) 401-2700  
Fax (203) 401-6799  
tspalletta@rwater.com

TO

Number	Analyte	Methods	Unit Price	Extended Price
1	Perfluorinated Compounds	EPA 537	\$125.00	\$125.00

It is the Regional Water Authority's policy to provide both quality results and technical support to our clients. Due to the fact that the Regional Water Authority is a water utility and not an environmental laboratory, we are very familiar with regulatory monitoring requirements and issues that pertain to the drinking water industry.

The Regional Water Authority has been in the business of supplying quality water to customers for 150 years. In doing so, we have developed a great deal of knowledge and expertise when dealing with all aspects of providing safe water to the public. This expertise allows us the ability to help our clients with issues that may arise due to source, treatment, and/or distribution.

Submitted By Theresa Spalletta  
Laboratory Manager

Date \_\_\_\_\_

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** TRIS HYDROCHLORIDE

**Other means of identification**

**Product No.:** 7737, 4126, 4103, 4106, H590

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Health hazards**

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity - single exposure	Category 3

**Label elements**

**Hazard symbol:**



**Signal word:** Warning

**Hazard statement:** Causes skin irritation.  
Causes serious eye irritation.  
May cause respiratory irritation.  
May form combustible dust concentrations in air.

**Precautionary statement**

<b>Prevention:</b>	Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection. Prevent dust accumulation to minimize explosion hazard.
<b>Response:</b>	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Specific treatment (see this label). IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Storage:</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>Disposal:</b>	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

### 3. Composition/information on ingredients

#### Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
TRIS HYDROCHLORIDE		1185-53-1	99 - 100%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

<b>General information:</b>	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
<b>Ingestion:</b>	Drink plenty of water. Get medical attention if symptoms occur.
<b>Inhalation:</b>	Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.
<b>Skin contact:</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.
<b>Eye contact:</b>	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

#### Most important symptoms/effects, acute and delayed

**Symptoms:** Irritating to eyes, respiratory system and skin.

#### Indication of immediate medical attention and special treatment needed

**Treatment:** Treat symptomatically. Symptoms may be delayed.

### 5. Fire-fighting measures

**General fire hazards:** No data available.

#### Suitable (and unsuitable) extinguishing media

**Suitable extinguishing media:** Water spray, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** Dust may form explosive mixture with air.

#### Special protective equipment and precautions for firefighters

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Use personal protective equipment. Ventilate closed spaces before entering them. Keep upwind. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.

**Methods and material for containment and cleaning up:** Sweep up and place in a clearly labeled container for chemical waste. Avoid dust formation. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spills for later disposal.

**Notification Procedures:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

**Environmental precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

### 7. Handling and storage

**Precautions for safe handling:** Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Do not breathe dust or vapor. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment. Use non-sparking hand tools and explosion-proof electrical equipment. Avoid dust formation. Dust may form explosive mixture with air. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight.

**Conditions for safe storage, including any incompatibilities:** Keep containers tightly closed. Store in a well-ventilated place. Protect against direct sunlight.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None of the components have assigned exposure limits.

#### Appropriate engineering controls

No data available.

### Individual protection measures, such as personal protective equipment

**General information:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Use tight fitting goggles if dust is generated.

#### Skin protection

**Hand protection:** Wear protective gloves.

**Other:** Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Respiratory protection:** In case of inadequate ventilation use suitable respirator.

**Hygiene measures:** Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when using the product. Wash contaminated clothing before reuse.

## 9. Physical and chemical properties

### Appearance

**Physical state:** Solid  
**Form:** Crystals  
**Color:** Colorless

**Odor:** Odorless

**Odor threshold:** No data available.

**pH:** No data available.

**Melting point/freezing point:** 150 °C

**Initial boiling point and boiling range:** No data available.

**Flash Point:** No data available.

**Evaporation rate:** No data available.

**Flammability (solid, gas):** No data available.

### Upper/lower limit on flammability or explosive limits

**Flammability limit - upper (%):** No data available.

**Flammability limit - lower (%):** No data available.

**Explosive limit - upper (%):** No data available.

**Explosive limit - lower (%):** No data available.

**Vapor pressure:** Estimated < 0.01 kPa (25 °C)

**Vapor density:** No data available.

**Relative density:** No data available.

### Solubility(ies)

**Solubility in water:** No data available.

<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

**Other information**

<b>Molecular weight:</b>	157.59 g/mol (C <sub>4</sub> H <sub>11</sub> NO <sub>3</sub> .ClH)
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## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability:</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	Heat, sparks, flames.
<b>Incompatible materials:</b>	Strong oxidizing agents. Aluminum. Copper.
<b>Hazardous decomposition products:</b>	Thermal decomposition may produce oxides of carbon and nitrogen. Hydrogen Chloride.

## 11. Toxicological information

**Information on likely routes of exposure**

<b>Ingestion:</b>	Large amount may cause gastrointestinal upset.
<b>Inhalation:</b>	Dust may irritate respiratory system.
<b>Skin contact:</b>	Causes skin irritation.
<b>Eye contact:</b>	Causes serious eye irritation.

**Information on toxicologic al effects**

**Acute toxicity (list all possible routes of exposure)**

<b>Oral</b>	
<b>Product:</b>	No data available.

<b>Dermal</b>	
<b>Product:</b>	No data available.

<b>Inhalation</b>	
<b>Product:</b>	No data available.

<b>Repeated dose toxicity</b>	
<b>Product:</b>	No data available.

<b>Skin corrosion/irritation</b>	
<b>Product:</b>	Causes skin irritation.

<b>Serious eye damage/eye irritation</b>	
<b>Product:</b>	Causes serious eye irritation.

<b>Respiratory or skin sensitization</b>	
<b>Product:</b>	Not a skin sensitizer.

**Carcinogenicity**

**Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**

No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified

**Germ cell mutagenicity**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**Reproductive toxicity**

**Product:** No components toxic to reproduction

**Specific target organ toxicity - single exposure**

**Product:** Respiratory tract irritation.

**Specific target organ toxicity - repeated exposure**

**Product:** None known.

**Aspiration hazard**

**Product:** Not classified

**Other effects:**

None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Aquatic invertebrates**

**Product:** No data available.

**Toxicity to Aquatic Plants**

**Product:** No data available.

**Persistence and degradability**

**Biodegradation**

**Product:** There are no data on the degradability of this product.

**BOD/COD ratio**

**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration factor (BCF)**

**Product:** Potential to bioaccumulate is low.

**Partition coefficient n-octanol / water (log Kow)**

**Product:** No data available.

**Mobility in soil:**

The product is water soluble and may spread in water systems.

**Other adverse effects:**

Not expected to be harmful to aquatic organisms.

**13. Disposal considerations**

**Disposal instructions:**

Discharge, treatment, or disposal may be subject to national, state, or local laws.

**Contaminated packaging:**

Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

Not regulated.

**IMDG**

Not regulated.

**IATA**

Not regulated.

**15. Regulatory information**

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

None present or none present in regulated quantities.

**Superfund amendments and reauthorization act of 1986 (SARA)**

**Hazard categories**

☒ Acute (Immediate) ☐ Chronic (Delayed) ☐ Fire ☐ Reactive ☐ Pressure Generating

**SARA 302 Extremely hazardous substance**

None present or none present in regulated quantities.

**SARA 304 Emergency release notification**

None present or none present in regulated quantities.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
TRIS HYDROCHLORIDE	500 lbs

**SARA 313 (TRI reporting)**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

None present or none present in regulated quantities.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

No ingredient regulated by NJ Right-to-Know Law present.

**US. Massachusetts RTK - Substance List**

No ingredient regulated by MA Right-to-Know Law present.

**US. Pennsylvania RTK - Hazardous Substances**

No ingredient regulated by PA Right-to-Know Law present.

**US. Rhode Island RTK**

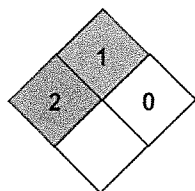
No ingredient regulated by RI Right-to-Know Law present.

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



	Flammability
	Health
	Reactivity
	Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

**Revision date:** No data available.

**Version #:** 1.0

**Further information:** No data available.

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## Sample Collection

Prior to collecting any sample:

- Wash & dry hands
- Put on gloves
- Organize bottles
- Flush system 5 minutes

All bottles provided are labeled with the facility ID, location and methodology. The bottles will also be segregated in per location to ensure that all required sampling is done at each location.

All samples, including field and trip blanks, need to be placed in a cooler with ice from the time of collection and throughout the delivery process. The laboratory will supply the coolers and ice packs. Please make sure that the ice packs are frozen prior to beginning sample collection.

### PERFLUORINATED ALKYL ACIDS ( Method 537.1)

(Three 250 ml plastic bottles labeled "537.1" for the first and tenth samples and two for all additional samples)

The sample handler must wash their hands before sampling and must wear nitrile gloves while filling and sealing the sample bottles (250 ml Plastic). PFAA contamination during sampling can occur from a number of common sources, such as food packaging and certain foods and beverages. Proper hand washing and wearing nitrile gloves will aid in minimizing this type of accidental contamination of the samples.

Sampling from a Tap – When sampling from a cold water tap, remove the aerator, open the tap, and allow the system to flush until the water temperature has stabilized (approximately five minutes). Samples do not need to be collected headspace free.

After collecting the sample, cap the bottle and agitate by hand until preservative is dissolved. Keep the sample sealed from time of collection until extraction.

In addition, to the collection of the sample, the sample collector must take the bottled labeled "537.1 FB" and pour it into the bottled labeled " 537.1 FB Poured". This must be done at the same time and location where the samples are collected.

## Shipping Samples

It is preferred but not required that the samples are shipped the same day of collection. If the samples are shipped on the same day of collection make sure that the ice packs provided are completely frozen prior to shipping. If samples cannot be shipped on the same day, place the samples in a refrigerator that is  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$  and the ice packs in a freezer.

Complete the Chain of Custody during sample collection and place it in the plastic bag. Include the Chain of Custody with the samples in the cooler.

Whether you are shipping the same day or not, make sure that the ice packs are completely frozen prior to submission to FedEx.

All bottle orders will include a FedEx return labels. The labels will be completed with the return information. Samples can be shipped Monday through Thursday and will arrive at the laboratory the next day. (Please do **NOT** ship samples on Friday since FedEx will not deliver until Monday resulting in samples exceeding temperature.)



**Fax: 203-401-6799**

## Chain of Custody Form

**PO Number**

**Location**

Number of Bottles

7

EPA 537.1/

Remarks

**State Sample Collected:**

CT NY Other(specify)

Evidence of Cooling (Circle): Y or N

Cooler Temp °C:

### Container & Preservative Meet Criteria

(Circle): Yes/ No

**Relinquished by (Signature):**

Date &amp; Time:

Received By (Signature):

Date &amp; Time:

**Lab Comments:**